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June 13, 2007

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1.

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REMARKS/ARGUMENTS

Claims 1-4 and 8-11 stand rejected, with claims 5-7 and 25 objected to and claims 26-36 withdrawn from consideration. Applicants respectfully traverse this restriction requirement, especially at the Final Rejection stage of prosecution and therefore claims 1-11 and 25-36 remain pending in this application.

Telephone Interviews With Examiner Ko Conducted on June 12 & 13, 2007

The Applicants' undersigned representative conducted several telephone interviews with Examiner Ko on June 12 & 13, 2007 in order to clarify issues raised in the Final Rejection. Agreement was reached during the telephone interview that Applicants would amend the title to read "AVALANCHE PHOTODIODE WITH REDUCED SIDEWALL DEFECTS" and that this title would be appropriate as far as the Examiner was concerned.

In section 2 of the Final Rejection, claims 26-36 were indicated as being withdrawn from consideration. Applicants' undersigned representative pointed out that claim 26 is essentially claim 1, but with an additional "providing" step (the "providing a third electrically insulating layer" step) and an additional "forming" step (the "forming a third window" step). The third "providing" and third "forming" steps are in fact discussed in claim 5 (the "further insulating layer is provided" and the "further window is formed") and claim 5 is dependent from claim 1. Thus, in effect, claim 26 is an independent version of claim 5, and in any event is clearly the same invention of claim 1. Accordingly, there is no basis for withdrawal from consideration of claim 26 or claims dependent thereon. This was explained to Examiner Ko and he indicated that with the above argument made in the amendment, the withdrawal of claims 26-36 would be withdrawn and these claims would be considered.

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Although not mentioned in the Final Rejection, Applicants pointed out that some possible PTO confusion may have resulted from Figure 1 not being labeled "Prior Art." While the prior art status of figure 1 is clearly discussed in Applicants' specification on page 6, in the Brief Description of the Drawings, i.e., "Figure 1 is an explanatory sectional view of the structure of a known avalanche photodiode," the drawing did not include a legend that Figure 1 was prior art. Applicants agreed to provide a corrected sheet of drawings with the proper label associated with Figure 1.

Claims 1-3 and 8-11 stand rejected under 35 USC §102(e) as being anticipated by Marshall (U.S. Patent 6,858,912). Applicants' review of the Official Action raised a question with respect to the last step recited in claim 1, i.e., "removing any remaining portion of said second insulating layer." In the Final Rejection, the Examiner refers to the Marshall reference at column 17, lines 19-60, as containing a teaching. However, Applicants' undersigned representative could find no teaching of any removing step relating to the second insulating layer in the Marshall reference.

After requesting clarification as to where Marshall taught "removing any remaining portion of said second insulating layer," the Examiner agreed that he could not identify the location of disclosure of any such "removing" step. Again, it may be that the Examiner was considering the partial removal of the second insulating layer (618) in Marshall (which forms the hole discussed at col. 17, lines 35-37). However, the undersigned pointed out that in Marshall's Figure 20, there is a clear indication that portions of the second insulating layer (618) clearly remains after all processing has been completed. Thus, Marshall fails to teach "removing any remaining portion of said second insulating layer" (emphasis added). Moreover, as noted

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during the interviews, Marshall specifically teaches not removing a portion of the second insulating layer (618) as this clearly remains in Figure 20. Again, the Examiner agreed that this was the teaching in the Marshall reference. Therefore Marshall fails to teach the claimed step of "removing" and this fact clearly overcomes the rejection under 35 USC §102(e).

Applicants' undersigned representative also reminded the Examiner that, should there be a temptation to reject claims 1-3 and 8-11 under 35 USC §103, §103(c) would clearly apply, i.e., the Marshall reference is prior art only under subsection (e) of §102 and thus "shall not preclude patentability under this section where the subject matter in the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." (35 USC §103(c)). It is noted that not only were the inventions in Marshall and the present application made under an obligation to assign to the same party, they both were actually assigned to "QinetiQ Limited" and thus Marshall, under §103(c), is not available as prior art.

Thus, in view of the above, any further rejection under 35 USC §102(e) and any future rejection under 35 USC §103 of the pending claims in view of the Marshall reference is respectfully traversed.

Inasmuch as claim 4 depends from claim 3 and ultimately from claim 1, the above arguments are incorporated by reference and any further rejection of claim 4 under 35 USC §103(a) over the Marshall/Harari (U.S. Patent 5,198,380) combination is respectfully traversed.

The Examiner's indication of allowable subject matter in claims 5-7 and 25 is very much appreciated. However, it is not believed necessary to rewrite these claims in independent form

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as, in view of the above discussion, claims 1-3 and 8-11 along with claims 26-36, are all believed allowable.

Entry of Amendment Under Rule 116

Entry of the above amendment is respectfully requested pursuant to the provisions of 37 CFR 1.116. The amendment to the title of the invention is responsive to an objection to the title first raised by the Examiner only in the Final Rejection (it is noted that the title was not amended after the first Official Action). Thus, Applicants could not have responded to this requested amendment at any earlier date.

Additionally, the Examiner did not appreciate the fact that Figure 1 was not labeled "Prior Art" until the telephone interview conducted after the issuance of the Final Rejection and the above amendment responds to this realization. Similarly, the minor amendments to the specification to identify the Applicants' co-pending application, now an issued patent, i.e., Marshall.

These minor amendments to the title, specification and drawings are responsive to issues either raised for the first time in the Final action or discovered during the telephone interview and therefore should be entered by the Examiner. Moreover, the entry of these corrective amendments will place the present application in clear condition for allowance in view of the agreement reached that the Marshall reference fails to disclose Applicants' claimed "removing" step and the fact that Marshall cannot be used in any obviousness rejection pursuant to the provisions of 35 USC §103(c). Therefore, entry of the above amendments should place the application in condition for allowance, thereby obviating the need for any appeal. Entry of the amendment under Rule 116 is appropriate and is respectfully requested.

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Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that pending claims 1-11 and 25-36 are in condition for allowance and notice to that effect is respectfully requested. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicants' undersigned representative.

Respectfully submitted,

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